WE CLAIM:

1. A method for modulating an immune response in an animal in need thereof, which comprises administering to said animal an effective amount of an IL-27R/WSX-1 ligand.

2. The method of claim 1, wherein said modulation is suppression and said ligand is an IL-27R/WSX-1 agonist.

3. The method of claim 2, wherein said agonist is selected from the group consisting of IL-27, an active fragment of IL-27, and an agonistic antibody to IL-27R/WSX-1 which enhances IL-27R/WSX-1 activity.

4. The method of claim 1, wherein said modulation is activation and said ligand is an IL-27R/WSX-1 antagonist.

5. The method of claim 4, wherein said antagonist is an inactive IL-27 fragment which retains IL-27R/WSX-1 binding affinity, or an antagonist antibody to IL-27R/WSX-1 which suppresses IL-27R/WSX-1 activity.

6. A method for modulating a T-helper cell mediated immune response in an animal in need thereof, which comprises administering to said animal an effective amount of an IL-27R/WSX-1 ligand.

7. The method of claim 6, wherein said modulation is suppression and said ligand is an IL-27R/WSX-1 agonist.

8. The method of claim 7, wherein said agonist is selected from the group consisting of IL-27, an active fragment of IL-27, and an agonistic antibody to IL-27R/WSX-1 which enhances IL-27R/WSX-1 activity.

9. The method of claim 6, wherein said modulation is activation and said ligand is an IL-27R/WSX-1 antagonist.

10. The method of claim 9, wherein said antagonist is an inactive IL-27 fragment which retains IL-27R/WSX-1 binding affinity, or an antagonist antibody to IL-27R/WSX-1 which suppresses IL-27R/WSX-1 activity.

11. The method of claim 6, wherein said T-helper cell is Th1.

12. The method of claim 6, wherein said T-helper cell is Th2.

13. A method for modulating an interferon-γ mediated immune response in an animal in need thereof, which comprises administering to said animal an effective amount of an IL-27R/WSX-1 ligand.

14. The method of claim 13, wherein said modulation

is suppression and said ligand is an IL-27R/WSX-1 agonist.

15. The method of claim 14, wherein said agonist is selected from the group consisting of IL-27, an active fragment of IL-27, and an agonistic antibody to IL-27R/WSX-1 which enhances IL-27R/WSX-1 activity.

16. The method of claim 13, wherein said modulation is activation and said ligand is an IL-27R/WSX-1 antagonist.

17. The method of claim 16, wherein said antagonist is an inactive IL-27 fragment which retains IL-27R/WSX-1 binding affinity, or an antagonist antibody to IL-27R/WSX-1 which suppresses IL-27R/WSX-1 activity.

18. A method for treating immune hyperactivity in an animal in need thereof, which comprises administering to said animal an effective amount of an IL-27R/WSX-1 ligand.

19. A method for treating an immune hyperactivity disorder in an animal in need thereof, which comprises administering to said animal an effective amount of an IL-27R/WSX-1 ligand.

20. The method of claim 19, wherein said immune disorder is selected from the group consisting of autoimmune disorders, hypersensitivity disorders, allergies, and asthma.

21. The method of claim 20, wherein said immune disorder is selected from the group consisting of Acquired Immune Deficiency Syndrome; acute pancreatitis; Addison's disease; alcohol-induced liver injury including alcoholic cirrhosis; Alzheimer's disease; amyelolateroschlerosis; asthma and other pulmonary diseases; atherosclerosis; autoimmune vasculitis; autoimmune hepatitis-induced hepatic injury; biliary cirrhosis; cachexia/anorexia, including AIDS-induced cachexia; cancer, such as multiple myeloma and myelogenous and other leukemias, as well as tumor metastasis; chronic fatigue syndrome; Clostridium associated illnesses, including Clostridium-associated diarrhea; coronary conditions and indications, including congestive heart failure, coronary restenosis, myocardial infarction, myocardial dysfunction, and coronary artery bypass graft; diabetes, including juvenile onset Type 1, diabetes mellitus, and insulin resistance; endometriosis, endometritis, and related conditions; epididymitis; erythropoietin resistance; fever; fibromyalgia or analgesia; glomerulonephritis; graft versus host disease/transplant rejection; Graves' disease; Guillain-Barre syndrome; Hashimoto's disease; hemolytic anemia; hemorrhagic shock; hyperalgesia; inflammatory bowel diseases including ulcerative colitis and Crohn's disease; inflammatory conditions of a joint and rheumatic diseases including, osteoarthritis, rheumatoid arthritis, juvenile (rheumatoid) arthritis, seronegative polyarthritis, ankylosing spondylitis, Reiter's syndrome and reactive arthritis, Still's disease, psoriatic arthritis, enteropathic arthritis, polymyositis, dermatomyositis, scleroderma, systemic sclerosis, vasculitis (e.g., Kawasaki's disease), cerebral vasculitis, Lyme disease, staphylococcal-

inducedarthritis, Sjögren's syndrome, rheumatic fever, polychondritis and polymyalgia rheumatica and giant cell arteritis; inflammatory eye disease, as may be associated with, for example, corneal transplant; inflammatory eye disease, as may be associated with, e.g., corneal transplant; inflammatory bowel disease; ischemia, including cerebral ischemia; Kawasaki's disease; learning impairment; lung diseases; lupus nephritis; multiple sclerosis; myasthenia gravis; myopathiesneuroinflammatory diseases; neurotoxicity; ocular diseases and conditions, including ocular degeneration and uveitis; osteoporosis; pain, including cancer-related pain; Parkinson's disease; pemphigus; periodontal disease; Pityriasis rubra pilaris; pre-term labor; prostatitis and related conditions; psoriasis and related conditions; psoriatic arthritis; pulmonary fibrosis; reperfusion injury; rheumatic fever; rheumatoid arthritis; sarcoidosis; scleroderma; septic shock; side effects from radiation therapy; Sjogren's syndrome; sleep disturbance; spondyloarthropathies; systemic lupus erythematosus; temporal mandibular joint disease; thyroiditis; tissue transplantation or an inflammatory condition resulting from strain, sprain, cartilage damage, trauma, and orthopedic surgery; transplant rejection; uveitis; vasculitis; or an inflammatory condition resulting from strain, sprain, cartilage damage, trauma, orthopedic surgery, infection or other disease processes.

22. A method for treating a T-helper cell mediated disorder in an animal in need thereof, which comprises administering to said animal an effective amount of an IL-27R/WSX-1 ligand.

23. The method of claim 22, wherein said T-helper

cell mediated disorder is selected from the group consisting of Acquired Immune Deficiency Syndrome; acute pancreatitis; Addison's disease; alcohol-induced liver injury including alcoholic cirrhosis; Alzheimer's disease; amyelolateroschlerosis; asthma and other pulmonary diseases; atherosclerosis; autoimmune vasculitis; autoimmune hepatitis-induced hepatic injury; biliary cirrhosis; cachexia/anorexia, including AIDS-induced cachexia; cancer, such as multiple myeloma and myelogenous and other leukemias, as well as tumor metastasis; chronic fatigue syndrome; Clostridium associated illnesses, including Clostridium-associated diarrhea; coronary conditions and indications, including congestive heart failure, coronary restenosis, myocardial infarction, myocardial dysfunction, and coronary artery bypass graft; diabetes, including juvenile onset Type 1, diabetes mellitus, and insulin resistance; endometriosis, endometritis, and related conditions; epididymitis; erythropoietin resistance; fever; fibromyalgia or analgesia; glomerulonephritis; graft versus host disease/transplant rejection; Graves' disease; Guillain-Barre syndrome; Hashimoto's disease; hemolytic anemia; hemorrhagic shock; hyperalgesia; inflammatory bowel diseases including ulcerative colitis and Crohn's disease; inflammatory conditions of a joint and rheumatic diseases including, osteoarthritis, rheumatoid arthritis, juvenile (rheumatoid) arthritis, seronegative polyarthritis, ankylosing spondylitis, Reiter's syndrome and reactive arthritis, Still's disease, psoriatic arthritis, enteropathic arthritis, polymyositis, dermatomyositis, scleroderma, systemic sclerosis, vasculitis (e.g., Kawasaki's disease), cerebral vasculitis, Lyme disease, staphylococcal-inducedarthritis, Sjögren's syndrome, rheumatic fever, polychondritis and polymyalgia rheumatica and giant cell

arteritis; inflammatory eye disease, as may be associated with, for example, corneal transplant; inflammatory eye disease, as may be associated with, e.g., corneal transplant; inflammatory bowel disease; ischemia, including cerebral ischemia; Kawasaki's disease; learning impairment; lung diseases; lupus nephritis; multiple sclerosis; myasthenia gravis; myopathiesneuroinflammatory diseases; neurotoxicity; ocular diseases and conditions, including ocular degeneration and uveitis; osteoporosis; pain, including cancer-related pain; Parkinson's disease; pemphigus; periodontal disease; Pityriasis rubra pilaris; pre-term labor; prostatitis and related conditions; psoriasis and related conditions; psoriatic arthritis; pulmonary fibrosis; reperfusion injury; rheumatic fever; rheumatoid arthritis; sarcoidosis; scleroderma; septic shock; side effects from radiation therapy; Sjogren's syndrome; sleep disturbance; spondyloarthropathies; systemic lupus erythematosus; temporal mandibular joint disease; thyroiditis; tissue transplantation or an inflammatory condition resulting from strain, sprain, cartilage damage, trauma, and orthopedic surgery; transplant rejection; uveitis; vasculitis; or an inflammatory condition resulting from strain, sprain, cartilage damage, trauma, orthopedic surgery, infection or other disease processes.

24. A method for modulating a T-helper cell mediated immune response in an animal in need thereof, which comprises administering to said animal an effective amount of an IL-27R/WSX-1 ligand.

25. The method of claim 24, wherein said T-helper cell is Th1.

26. The method of claim 24, wherein said T-helper cell is Th2.

27. A pharmaceutical composition comprising:

(i) an effective amount of an IL-27R/WSX-1 ligand; and

(ii) a pharmaceutically acceptable carrier.

28. The pharmaceutical composition of claim 27, wherein said IL-27R/WSX-1 ligand is an agent that increases WSX-1 activity.

29. The pharmaceutical composition of claim 28, wherein said agent comprises IL-27 or an active fragment thereof.

30. The pharmaceutical composition of claim 28, wherein said agent comprises an agonistic antibody that binds to an epitope on WSX-1.

31. The pharmaceutical composition of claim 28, wherein said agent comprises an agonistic antibody that binds to an epitope on IL-27R.

32. The pharmaceutical composition of claim 28, wherein said agent comprises an agonistic antibody that binds to an epitope on IL-27RPP.

33. A method of treating immune hyperreactivity, which comprises administering an effective amount of an agent that increases WSX-1 activity.

34. The method of Claim 33, wherein the agent comprises IL-27 or an active fragment thereof.

35. The method of Claim 33, wherein the agent comprises an agonistic antibody that binds to an epitope on WSX-1.

36. The method of Claim 33, wherein the agent comprises an agonistic antibody that binds to an epitope on IL-27R.

37. The method of Claim 33, wherein the agent comprises an agonistic antibody that binds to an epitope on IL-27RPP.

38. A method of suppressing polarized T cells, which comprises administering an effective amount of an agent that increases WSX-1 activity.

39. The method of Claim 38, wherein the agent comprises IL-27 or an active fragment thereof.

40. The method of Claim 38, wherein the agent comprises an agonistic antibody that binds to an epitope on WSX-1.

41. The method of Claim 38, wherein the agent comprises an agonistic antibody that binds to an epitope on IL-27R.

42. The method of Claim 38, wherein the agent comprises an agonistic antibody that binds to an epitope on IL-27RPP.

43. A method of treating Th1-mediated disease, which comprises administering an effective amount of an agent that increases WSX-1 activity.

44. The method of Claim 43, wherein the agent comprises IL-27 or an active fragment thereof.

45. The method of Claim 43, wherein the agent comprises an agonistic antibody that binds to an epitope on WSX-1.

46. The method of Claim 43, wherein the agent comprises an agonistic antibody that binds to an epitope on IL-27R.

47. The method of Claim 43, wherein the agent comprises an agonistic antibody that binds to an epitope on IL-27RPP.

48. A method of treating Th2-mediated disease, which comprises administering an effective amount of an agent that increases WSX-1 activity.

49. The method of Claim 48, wherein the agent comprises IL-27 or an active fragment thereof.

50. The method of Claim 48, wherein the agent comprises an agonistic antibody that binds to an epitope on WSX-1.

51. The method of Claim 48, wherein the agent comprises an agonistic antibody that binds to an epitope on IL-27R.

52. The method of Claim 48, wherein the agent comprises an agonistic antibody that binds to an epitope on IL-27RPP.

53. A method of treating IFN-g mediated disease, which comprises administering an effective amount of an agent that increases WSX-1 activity.

54. The method of Claim 53, wherein the agent comprises IL-27 or an active fragment thereof.

55. The method of Claim 53, wherein the agent comprises an agonistic antibody that binds to an epitope on WSX-1.

56. The method of Claim 53, wherein the agent comprises an agonistic antibody that binds to an epitope on IL-27R.

57. The method of Claim 53, wherein the agent comprises an agonistic antibody that binds to an epitope on IL-27RPP.

58. A method of treating IgE-mediated disease, which comprises administering an effective amount of an agent that increases WSX-1 activity.

59. The method of Claim 58, wherein the agent comprises IL-27 or an active fragment thereof.

60. The method of Claim 58, wherein the agent comprises an agonistic antibody that binds to an epitope on WSX-1.

61. The method of Claim 58, wherein the agent comprises an agonistic antibody that binds to an epitope on IL-27R.

62. The method of Claim 58, wherein the agent comprises an agonistic antibody that binds to an epitope on IL-27RPP.

63. A method of treating asthma, which comprises administering an effective amount of an agent that increases WSX-1 activity.

64. The method of Claim 64, wherein the agent comprises IL-27 or an active fragment thereof.

65. The method of Claim 64, wherein the agent comprises an agonistic antibody that binds to an epitope on WSX-1.

66. The method of Claim 64, wherein the agent comprises an agonistic antibody that binds to an epitope on IL-27R.

67. The method of Claim 64, wherein the agent comprises an agonistic antibody that binds to an epitope on IL-27RPP.

68. A method of treating allergy, which comprises administering an effective amount of an agent that increases WSX-1 activity.

69. The method of Claim 68, wherein the agent comprises IL-27 or an active fragment thereof.

70. The method of Claim 68, wherein the agent comprises an agonistic antibody that binds to an epitope on WSX-1.

71. The method of Claim 68, wherein the agent comprises an agonistic antibody that binds to an epitope on IL-27R.

72. The method of Claim 68, wherein the agent comprises an agonistic antibody that binds to an epitope

on IL-27RPP.